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ABSTRACT

The use of the supervisor as a source of information for subordinate decision makers was investigated using 72 eligibility workers in a county welfare agency. Results showed work group supportiveness to be highly associated with the frequency of use and the value attached by subordinates to the supervisor as an information source, but supportiveness was not related to decision making performance. Use of the superior as an information source was inversely associated with errors in decision making, i.e., decision making performance was better with more frequent use of the supervisor as an information source. A clear pattern was evident. Supportiveness is associated with use of the supervisor which, in turn, is associated with improved performance. These results are consistent with previous studies of organizational communication and individual decision making. (Author)

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Supervisors and Peers as Information Sources and Individual Decision Making Performance

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Supervisors and Peers as Information Sources and Individual Decision Making Performance

Perhaps one of the most fundamental and pervasive of all organizational behaviors is decision making. Individuals in organizations are continually called upon to make choices among alternatives. To accomplish this, decision makers must continually process information. Hence, a variety of theoretical and empirical studies have examined the process of decision making from an information processing perspective (e.g., Cyert & March, 1963; March & Simon, 1958; Slovic, 1969; Slovic & Lichtenstein, 1971; Schroder, Driver & Streufert, 1967). Results of these and other studies have documented the causal relationship between information use and decision making performance (e.g. Chervany & Dickson, 1974; Jacoby, Speller & Kohn, 1974; Naylor, 1964; Nystedt, 1974; Porat & Haas, 1969).

However, a potential weakness in the research cited is the reliance on laboratory studies of decision making which may not validly reflect information use and decision making behavior in an organizational context (Weick, 1965; Winkler & Murphy, 1973). In real world situations, unlike typical laboratory conditions, informational cues may be difficult to obtain, contradictory, or vague with decision makers under time pressures, performing multiple tasks and pursuing multiple goals (e.g., O'Reilly & Roberts, 1974; Rosen & Tesser, 1970; Wright, 1974). Hence, research is needed which examines the communication of information in actual organizations and the impact of this information on decision making.

One important source of information potentially available to real world decision makers is from others in the work group, for example, superiors and peers. Several studies exist which demonstrate that accurate information flow between superiors and subordinates occurs when senders trust receivers (O'Reilly & Roberts, 1974; Read, 1962; Roberts & O'Reilly, 1974a) and in units characterized by high trust or supportiveness (O'Reilly & Roberts, 1976; Zand, 1972). Other investigations have linked communication in organizations to performance (e.g., O'Reilly & Roberts, Note 2, Note 3). None of these studies, however, has simultaneously examined the relationship between information use and real world decision making performance.

The present study was designed to specifically address the relationships among use of others in the work group (peers and superiors) as information sources, perceptions of workgroup supportiveness, and individual decision making performance. Specifically, it was hypothesized that (1) perceived work group supportiveness would be associated with self-reports of increased use of superiors and peers as information sources used in decision making, and (2) increased use of superiors and peers as information sources would be associated with increased decision making performance.

Method

Subjects. A total of 163 subjects employed in four branch locations of a county welfare agency responded to a questionnaire as a part of a larger survey. This sample included 72 eligibility workers who performed the same job, had the same case load, were employed at the same level, and had access to the same information sources. These eligibility workers were employed in six person work units, each unit with a supervisor.

Respondents from 27 units were sampled. Average job tenure was 2.5 years.

Procedure. Each branch office was visited by the investigator and meetings held with respondents in which the purpose of the research was explained, respondent confidentiality assured and a questionnaire administered and collected. A total of 11 of the 83 eligibility workers sampled (13 percent) declined to identify themselves on the questionnaire and responded anonymously.

Measurement. Each respondent provided demographic information and answers to the following:

(1) Information source use - Subjects responded, on seven point scales, to the following two questions assessing perceived frequency and importance of information source use of supervisors and peers: (a) How frequently, on the average, do you obtain information for decision making from the following sources; and (b) Personally speaking, how valuable or important do you usually find these information sources to be in providing you with information with which to make decisions? Responses to the frequency and importance items were multiplied to provide an overall information use index.

(2) Work group supportiveness - Subjects responded, on a five point scale, to the following four items developed by Campbell and Beaty (Note 1) to assess work group supportiveness: 1) Most supervisors tend to take a personal interest in the people under them; 2) An extremely friendly atmosphere prevails among people in this unit; 3) Individuals can usually count on their supervisor to back them up; 4) Praise and recognition are almost always given for doing a good job. Roberts and O'Reilly, (Note 4), using

a sample of Navy personnel (N = 813) found this index to correlate with a measure of trust in the superior $r = .51$, $p < .001$ and with perceptions of information accuracy and communication openness $r = .41, .58$, $p < .001$. Hence, the supportiveness index appears to be similar to the general trust dimension as cited in several previous studies (e.g., Read, 1962; Roberts & O'Reilly, 1974a).

(3) Decision making performance - Elgibility workers are required to make decisions about the eligibility of applicants for assistance. The accuracy of their decision making is assessed by auditors from an independent agency who conduct a random sampling of cases for each worker. Errors in overpayment and payments made to ineligible recipients are recorded. Decision making performance for each respondent is available in the form of an error rate, that is, the total number of cases with errors divided by the number of cases reviewed. This performance measure reflects decision making ability. Error rate data were collected from the auditing unit for each respondent.

Results

Correlations among the variables are presented in Table 1. As is evident, the measures of frequency and importance of information source are highly intercorrelated. Interestingly, use of the superior as an information source is not significantly associated with the use of peers. This suggests that decision makers view them as two independent information sources.

Insert Table 1 about here

Supportiveness is positively associated with the use (frequency x importance) of the superior as a source of information for decision making. Surprisingly, supportiveness is inversely associated with the use of others in the work unit as information sources.

Recall that the measure of decision making performance used here is the number of audited cases found with errors divided by the number of cases reviewed. This measure of performance, or error rate, is significantly and inversely associated with the use of the superior as an information source and not significantly related to the use of peers. Thus, increased use of the superior for information is associated with fewer errors in decision making. Using the squared correlation coefficient as an indicator, almost 14 percent of the variation in decision making performance can be accounted for in terms of information source use.

Although all respondents in this sample perform the same function, it is possible that experience and education may account for some variation in both information source use and decision making performance. Therefore, in order to ascertain if the information source-performance relationships presented in Table 1 were artifactual, a partial correlation was computed between use of the superior as an information source and error rate controlling for the respondent's tenure in the job, tenure in the organization, and education. This was done to control for the possible effects of job knowledge gained through training and experience. The partial correlation between use of the superior and error rate remained highly significant ($r = -.38$, $p < .01$),

Further partial correlations were computed among supportiveness--of the superior as an information source--and error rate to examine the

relative independence of the relationships. Both the zero order and partial correlations are presented in Table 2. As is apparent, the partial correlations do not change the interpretation. The overall picture is clear; supportiveness is associated with use of the superior as an information source but not with performance, while use of the superior is significantly associated with performance independent of supportiveness.

Insert Table 2 About Here

Discussion

Results of this investigation are congruent with two previous streams of research. First, the results reported here demonstrate that perceptions of supportiveness by subordinates are linked to increases in the reported frequency and importance of the supervisor as an information source for use in decision making. This finding is consistent with other research on organizational communication which links perceptions of trust, supportiveness and/or leader consideration to a more open and accurate exchange of information (e.g., Burke & Wilcox, 1969; O'Reilly & Roberts, 1974, 1976; Zand, 1972).

Second, if the supervisor can be assumed to represent a source of accurate and relevant information, then the association reported here between use of the superior and improved decision making performance is also consistent with previous studies of decision making demonstrating that improved decision making performance is in part, a function of information quality and quantity (e.g., Porat & Haas, 1969). Controlling for characteristics of the decision maker representative of work experience and education does not alter the results. Hence, the two relationships appear to be indepen-

dent of each other. Perceived supportiveness, which is associated with the frequency and importance of use of the superior, is not related to decision making performance. Similarly, the increased performance associated with the use of the superior is not a function of supportiveness or job related respondent characteristics.

The use of other unit members as sources of information for decision making is unrelated to performance, suggesting, perhaps, the lack of expertise of peers. This notion may be consistent with the finding that supportiveness is inversely related to the use of peers as information sources. When the supervisor is approachable, that is, under conditions of high supportiveness, decision makers will use the more qualified information source more. When supportiveness is low, peers will be used more often, but this use is not reflected in improved decision making performance.

The findings reported here have potentially important applications. All eligibility workers in this study have access to the same information sources and make decisions subject to the same set of regulations. Errors in decision making result in loss of revenue to the county agency in the form of loss of Federal funds. Hence, errors in decision making are costly.

The data presented here, when combined with previous research on leadership and information and decision making, suggest a potential mechanism for reducing errors. The relationship of supportiveness or leader consideration and subordinate satisfaction has long been established. The relationship of consideration to performance is not as clear (e.g., Stogdill, 1974). Results of the present study, and others on communication in work settings, suggest that supportiveness is associated with more open and accurate infor-

mation exchange. Under conditions characterized by the availability of accurate and relevant information, decision making performance is improved. Supportiveness is associated with an increased propensity by subordinates to use the superior as an information source, not with performance per se. The availability of relevant information is then related to improved performance independent of supportiveness. Therefore, supervisory training stressing a supportive or considerate leadership style may be of value when it promotes the availability of information to subordinate decision makers. Drawing from O'Reilly and Roberts (1974, 1976, Note 2, Note 3), further studies might identify those organizational positions dependent on information flows and extend the findings reported here to other factors which may be associated with information use and decision making in organizations.

Reference Notes

1. Campbell, J. and Beaty, E. Organizational Climate: Its Measurement and the Relationship to Work Group Performance. Paper Presented at the Meeting of the American Psychological Association, Washington, D. C., September, 1971.

2. O'Reilly, C. and Roberts, K. Task Group Structure, Communication and Effectiveness in Three Organizations. Unpublished Manuscript, University of California, Los Angeles, 1976.

3. O'Reilly, C. and Roberts, K. Interpersonal Communication and Objective and Perceptual Assessments of Performance. Unpublished Manuscript, University of California, Los Angeles, 1976.

4. Roberts, K. and O'Reilly, C. Empirical Findings and Suggestions for Future Research on Organizational Communication: Part II. Unpublished Manuscript. University of California, Berkeley, 1975.

References

Burke, R. and Wilcox, D. Effects of different patterns and degrees of openness in superior-subordinate communication on subordinate job satisfaction. Academy of Management Journal, 1969, 12, 319-326.

Chervany, N. and Dickson, G. An experimental evaluation of information overload in a production environment. Management Science, 1974, 20, 1335-1344.

Cyert, R. and March, J. A Behavioral Theory of the Firm. Englewood Cliffs, N.J.: Prentice-Hall, 1963.

Jacoby, J., Speller, D. and Kohn, C. Brand choice as a function of information load. Journal of Marketing Research, 1974, 11, 63-69.

March, J. and Simon, H. Organizations. New York: Wiley, 1958.

Naylor, J. Accuracy and variability of information sources as determinants and source preference of decision makers. Journal of Applied Psychology, 1964, 48, 43-49.

Nystedt, L. Consensus among judges as a function of the amount of information. Educational and Psychological Measurement, 1974, 34, 91-101.

O'Reilly, C. and Roberts, K. Information filtration in organizations: three experiments. Organizational Behavior and Human Performance, 1974, 11, 253-265.

O'Reilly, C. and Roberts, K. Relationships among components of credibility and communication behaviors in work units. Journal of Applied Psychology, 1976, 61, 99-102.

Porat, A. and Haas, J. Information effects on decision making. Behavioral Science, 1969, 14, 98-104.

Read, W. Upward communication in industrial hierarchies. Human Relations, 1962, 15, 3-16.

Roberts, K. H. and O'Reilly, C. Failures in upward communication in organizations: three possible culprits. Academy of Management Journal, 1974, 17, 205-215, (a).

Roberts, K. H. and O'Reilly, C. Measuring organizational communication. Journal of Applied Psychology, 1974, 59, 321-326, (b).

Rosen, S. and Tesser, A. On reluctance to communicate undesirable information: the mum effect. Sociometry, 1970, 33, 253-263.

Schroder, H., Driver, M. and Streupert, S. Human Information Processing. New York: Holt, 1967.

Slovic, P. Analyzing the expert judge: a descriptive study of a stockbroker's decision processes. Journal of Applied Psychology, 1969, 53, 255-263.

Slovic, P. and Lichtenstein, S. Comparison of Bayesian and regression approaches to the study of information processing in judgment. Organizational Behavior and Human Performance, 1971, 6, 649-744.

Stogdill, R. Handbook of Leadership. New York: Free Press, 1974.

Weick, K. Laboratory experimentation with organizations. In J. March (Ed.) Handbook of Organizations. Chicago: Rand-McNally, 1965, 194-260.

Winkler, R. and Murphy, A. Experiments in the laboratory and the real world. Organizational Behavior and Human Performance, 1973, 10, 252-270.

Wright, P. The harassed decision maker: time pressures, distractions, and the use of evidence. Journal of Applied Psychology, 1974, 59, 555-561.

Zand, D. E. Trust and managerial problem solving. Administrative Science Quarterly, 1972, 17, 229-240.

Footnote

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TABLE 1

CORRELATIONS AMONG INFORMATION SOURCE USE,
SUPPORTIVENESS, AND DECISION MAKING PERFORMANCE (N=72)

Variable	1	2	3	4	5	6	7	8
1. Frequency - Supervisor	-							
2. Frequency - Peers	.09	-						
3. Importance - Supervisor	.64*	-.04	-					
4. Importance - Peers	-.04	.75*	.14	-				
5. Use of Supervisor (1x3)	.90*	.04	.86*	.03	-			
6. Use of Peers (2x4)	.00	.93*	.01	.91*	.03	-		
7. Supportiveness	.54*	-.23	.45*	-.32*	.57*	-.30*	-	
8. Error Rate	-.27*	-.03	-.43*	.03	-.37*	.03	-.15	-

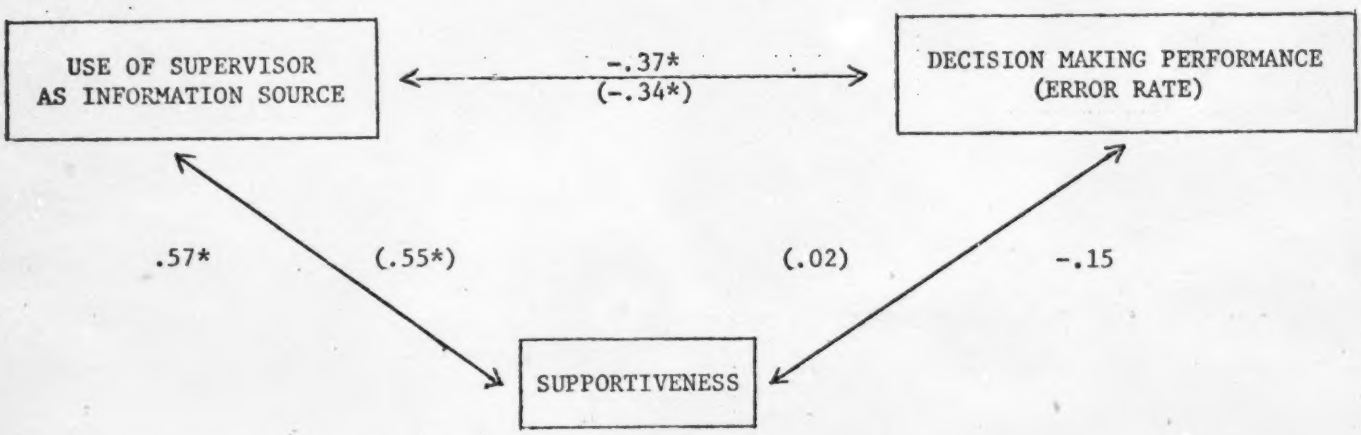
* $p < .05$

Table 2

Zero-Order and Partial Correlations

Among Source, Supportiveness and

Performance (N=72)[a]



[a]Partial correlations are shown in parenthesis

* $p < .01$